

AMENDMENTS TO THE CLAIMS

1 1. (Currently amended) A method of debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:

4 executing a web browser at the workstation;

5 invoking the application program and the debugger program ~~from the workstation using a~~
6 user interface provided by the web browser and via a network interface to cause
7 the server to execute the application program and the debugger program;

8 receiving a first web page from the server for displaying a user frame in the web browser
9 at the workstation;

10 displaying [[a]] the user frame of the first web page in the web browser at the
11 workstation, ~~that~~ wherein the user frame includes information generated by the
12 application program;

13 providing displaying a debug view option in the web browser at the workstation for
14 generating a second web page having a debug frame of the application program;
15 and

16 receiving the second web page from the server for displaying the debug frame in the web
17 browser at the workstation when the debug view option is selected; and

18 displaying the debug frame of the second web page in the web browser at the workstation
19 when the debug view option is selected, wherein the debug frame includes
20 information about one or more components of the application program.

1 2. (Original) The method of Claim 1 further comprising:

2 providing a user view option at the workstation for generating the user frame; and
3 displaying the user frame when the user view option is selected.

1 3. (Currently amended) The method of Claim 1 wherein displaying the debug frame
2 of the second web page in the web browser at the workstation includes providing a list of
3 variable names in the application program.

1 4. (Currently amended) The method of Claim 3 wherein displaying the debug frame
2 of the second web page in the web browser at the workstation includes providing at least one of:

3 a list of request information variable names in the application program, or a list of session
4 information variable names in the application program.

1 5. (Original) The method of Claim 3, wherein one or more of the variable names
2 represents a corresponding object, the method further comprising:
3 selecting one of the variable names; and
4 providing information about the object corresponding to the variable name on the debug
5 frame.

1 6. (Original) The method of Claim 5 wherein the information about the object
2 includes at least one of: the fields of the object, the methods associated with the object, or the
3 constructors associated with the object.

1 7. (Original) A computer readable storage media comprising:
2 computer instructions to implement the method of claim 1.

1 8. (Original) A signal in a carrier medium comprising:
2 computer instructions to implement the method of claim 1.

1 9. (Currently amended) A method of debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:
4 executing the application program and the debugger program on the server when the
5 application program is invoked from the workstation;
6 generating information for a first web page, wherein the first web page comprises a user
7 frame ~~at the workstation~~ that includes information generated by the application
8 program;
9 transmitting the first web page to the workstation; and
10 generating information for a second web page, wherein the second web page comprises a
11 debug frame ~~at the workstation~~ when a debug view option is selected from the
12 workstation, wherein the debug frame includes information about components of
13 the application program; and
14 transmitting the second web page to the workstation.

1 10. (Currently amended) The method of Claim 9 wherein generating information for
2 ~~the debug frame second web page~~ includes saving the information for the user frame when the
3 debug view option is selected.

1 11. (Original) The method of Claim 10 further comprising restoring the saved
2 information for the user frame when a user view option is selected at the workstation.

1 12. (Currently amended) The method of Claim 9 wherein generating information for
2 ~~the second web page debug frame~~ includes generating a list of components of the application
3 program.

1 13. (Currently amended) The method of Claim 9 wherein generating information for
2 ~~the second web page debug frame~~ includes generating at least one of: a list of variables in the
3 application program, a list of methods associated with one or more of the variables in the
4 application program, or a list of constructors associated with one or more of the variables in the
5 application program.

1 14. (Currently amended) The method of Claim 9 wherein generating information for
2 ~~the second web page debug frame~~ includes using reflection technology to generate at least one
3 of: a list of variables in the application program, a list of methods associated with one or more of
4 the variables, and a list of constructors associated with one or more of the variables.

1 15. (Original) A computer readable storage media comprising:
2 computer instructions to implement the method of claim 9.

1 16. (Original) A signal in a carrier medium comprising:
2 computer instructions to implement the method of claim 9.

1 17. (Currently amended) An apparatus for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:
4 means for executing a web browser at the workstation;

5 means for invoking the application program and the debugger program ~~from the~~
6 ~~workstation using a user interface provided by the web browser and to cause the~~
7 ~~server to execute the application program and the debugger program;~~
8 ~~means for receiving a first web page from the server for displaying a user frame in the~~
9 ~~web browser at the workstation;~~
10 means for presenting [[a]] ~~the user frame of the first web page in the web browser~~ at the
11 ~~workstation, that wherein the user frame~~ that includes information generated by
12 the application program;
13 means for presenting a debug view option in the web browser at the workstation to
14 generate a second web page having a debug frame of the application program; and
15 means for receiving the second web page from the server for displaying the debug frame
16 in the web browser at the workstation when the debug view option is selected; and
17 means for presenting the debug frame of the second web page in the web browser at the
18 workstation when the debug view option is selected when the debug view option
19 is selected, wherein the debug frame includes information about one or more
20 components of the application program.

1 18. (Original) The apparatus of Claim 17 further comprising:
2 means for presenting a user view option at the workstation for generating the user frame;
3 and
4 means for presenting the user frame when the user view option is selected.

1 19. (Currently amended) The apparatus of Claim 17 wherein the debug frame of the
2 second web page in the web browser at the workstation includes presenting a list of components
3 of the application program.

1 20. (Original) The apparatus of Claim 17, wherein one or more of the
2 components represents a corresponding object, the apparatus further comprising:
3 means for selecting one of the objects; and
4 means for presenting information about the selected object, wherein the information
5 about the object includes at least one of: the name of the object, the fields of the

6 object, the methods associated with the object, or the constructors associated with
7 the object.

1 21. (Currently amended) An apparatus for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:

4 means for executing the application program and the debugger program on the server
5 when the application program is invoked from the workstation;
6 means for generating information for a first web page, wherein the first web page
7 comprises a user frame ~~at the workstation~~ that includes information generated by
8 the application program; and
9 means for generating information for a second web page, wherein the second web page
10 comprises a debug frame ~~at the workstation~~ when a debug view option is selected
11 from the workstation, wherein the debug frame includes information about
12 components of the application program.

1 22. (Currently amended) The apparatus of Claim 21 further comprising wherein the
2 means for generating information for the debug frame includes means for saving the information
3 for the user frame when the debug view option is selected.

1 23. (Original) The apparatus of Claim 22 further comprising means for restoring
2 the saved information for the user frame when a user view option is selected at the workstation.

1 24. (Currently amended) The apparatus of Claim 21 further comprising wherein the
2 means for generating information for the debug frame includes means for generating a list of
3 objects in the application program.

1 25. (Currently amended) The apparatus of Claim 24 wherein the means for
2 generating information for the debug frame a list of objects in the application program includes
3 at least one of: means for generating a list of methods associated with one or more of the objects
4 in the application program, or means for generating a list of constructors associated with one or
5 more of the objects in the application program.

1 26. (Currently amended) The apparatus of Claim 24 further comprising wherein the
2 ~~means for generating information for the debug frame includes means for using reflection~~
3 technology to generate at least one of: a list of objects in the application program, a list of
4 methods associated with one or more of the objects, and a list of constructors associated with one
5 or more of the objects.

1 27. (Currently amended) The apparatus of Claim 24 further comprising:
2 means for providing the list of objects to the workstation in a web page when the debug
3 view option is selected at the workstation.

1 28. (Currently amended) The apparatus of Claim 25 further comprising:
2 means for providing in a web page at least one of: a list of names of the objects, a list of
3 fields of at least one of the objects, a list of values of at least one of the objects,
4 the list of methods associated with at least one of the objects, or the list of
5 constructors associated with at least one of the objects.

1 29. (Currently amended) A system for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the system comprising:
4 a user interface web browser executable at the workstation operable to:
5 interact with a web page displayed by the web browser to allow a user to invoke
6 the application program and the debugger program from the workstation to
7 cause the server to execute the application program and the debugger
8 program;
9 present a first web page in the web browser, wherein the first web page comprises
10 ~~present~~ a user frame at the workstation that includes information generated
11 by the application program;
12 present a debug view option to generate a second web page having a debug frame
13 of the application program; and
14 present the debug frame of the second web page at the workstation when the
15 debug view option is selected, wherein the debug frame includes
16 information about one or more components of the application program.

1 30. (Currently amended) The system of Claim 29 wherein the ~~user interface web~~
2 browser executable at the workstation is further operable to:

3 present a user view option at the workstation; and
4 present the user frame when the user view option is selected.

1 31. (Original) The system of Claim 29 wherein the debug frame at the
2 workstation includes a list of one or more components of the application program.

1 32. (Currently amended) The system of Claim 29 wherein the application program
2 generates instructions and information for displaying [[a]] ~~the web page pages at the user~~
3 ~~interface~~.

1 33. (Currently amended) The system of Claim 29 wherein the ~~user interface is a web~~
2 ~~browser is operable to display graphical user controls to allow the workstation to communicate~~
3 with the server.

1 34. (Original) The system of Claim 31, further wherein the ~~user interface web~~
2 ~~browser is operable to present a third web page, and the third web page comprises additional~~
3 information about at least one of the components when the component is selected by the user.

1 35. (Original) The system of Claim 34, wherein the additional information
2 includes at least one of: the name of the component, the fields of the component, the methods
3 associated with the component, or the constructors associated with the component.

1 36. (Currently amended) A system for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the system comprising:

4 means for executing the application program and the debugger program on the server
5 when the application program is invoked from the workstation;
6 means for generating information for a first web page, wherein the first web page
7 comprises a user frame ~~at the workstation~~ that includes information generated by
8 the application program; and

9 a debugger program operable to generate information for a second web page, wherein the
10 second web page comprises a debug frame ~~at the workstation~~ when a debug view
11 option is selected from the workstation, wherein the debug frame includes
12 information about components of the application program.

1 37. (Original) The system of Claim 36 wherein the debugger program is operable
2 to save the information for the user frame when the debug view option is selected.

1 38. (Original) The system of Claim 37 wherein the debugger program is operable
2 to restore the saved information for the user frame when a user view option is selected at the
3 workstation.

1 39. (Original) The system of Claim 36 wherein the debugger program is operable
2 to generate a list of objects in the application program.

1 40. (Currently amended) The system of Claim 39 wherein the debugger program is
2 operable to generate in a web page at least one of: a list of methods associated with one or more
3 of the objects in the application program, or a list of constructors associated with one or more of
4 the objects in the application program.

1 41. (Original) The system of Claim 36 wherein the debugger program is operable
2 to use reflection technology to generate at least one of: a list of objects in the application
3 program, a list of methods associated with one or more of the objects, and a list of constructors
4 associated with one or more of the objects.

1 42. (Currently amended) The system of Claim 36 wherein the application program
2 generates instructions and information for displaying [[a]] the web page pages.

1 43. (Original) The system of Claim 36 wherein the server is operable to
2 communicate with a web browser program at the workstation.

1 44. (Original) The system of Claim 36 wherein the application program accesses
2 at least one of: internal code, private code, or public code.